
ARMY TRANSPORTATION.

H I N T S

ON

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BY

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ARMY TRANSPORTATION.

Army transportation, on a great scale, is a new thing in this country. It is not surprising, then, that the system at present in use in our armies is in many respects defective.

No statistics have yet been given to the public, from which data to estimate the comparative cost of our army transportation can be obtained. That it is immense, we know: necessarily so, from the wide domain and imperfect roads traversed by our armies; but, far beyond this, from the unwillingness of our soldiers to come down to the actual wants of men in the field in time of war. Who that has seen the trains of army wagons winding through the streets of Washington at all hours of day and night, during every day of the week, and Sundays most of all; or has witnessed, in the innumerable camps of the grand army of the Potomac, the inevitable parks of vehicles attached to every regiment, brigade, division, corps d'armée

and grand division; or has ridden back and forth along that white line, miles in extent, which stretches like the tail of a paper kite in the rear of an army on the march, can wonder at any sum of money that transportation may cost the Government, or at any failure to reach a specified locality or overtake a defeated army within reasonable time?

Major General HALLECK, in his report on military operations the past season, says, wisely,

"It is seen from this brief summary of military operations during the last three or four months, that while our soldiers have generally fought with bravery, and gained many important battles, these victories have not produced the usual results. In many instances the defeated foe was not followed from the battle-field; and even where a pursuit was attempted, it almost invariably failed to effect the capture or destruction of any part of the retreating army. This is a matter which requires serious and careful consideration. A victorious army is supposed to be in a condition to pursue its defeated foe with advantage, and, during such pursuit, to do him serious if not fatal injury. This result has usually been attained in other countries. Is there any reason why it should not be expected in this?"

The answer to General HALLECK's question is brief. What he, in common with the whole country, asks, can never be had until our means of transportation for army luggage is largely reduced and better managed. If we will still persist in requiring for the tent the comforts of the drawing room, and, in the management of our armies, act upon the assumption that our volunteers are a class of soldiers demanding new and

more careful treatment under all circumstances; if the cant of the stump about AMERICAN soldiers is to affect the decisions of councils of war, and public opinion about what the soldier ought to enjoy is to be the measure of what he ought to achieve; and if furthermore the practical wisdom of the shop and the field is never to be introduced into the army, the only result will be that the failures of the past year will be reproduced in the present.

The end desired is the rapid mobility of an army train. The hints suggested towards this end are,

First: Upon the amount of the means of transportation required; and,

Secondly: Upon the management of those means.

FIRST. The amount of means of transportation required by an army.

At the present time, upon the latest orders of the Commander-in-chief of the Army of the Potomac, to every infantry regiment of 1000 men there are allowed six 4-horse (or its equivalent 6-mule) wagons. Passing by for the moment the important fact that whilst there are very few regiments in the field which retain their maximum strength, there are very many at this time in the Army of

the Potomac which fall far below it; and that nevertheless every regiment, whatever may be its numbers, has gotten, keeps, and daily uses its six wagons; let us look at the real need which a regiment of 1000 men, infantry, has for six 4-horse wagons. As the necessity for means of transportation is greatest when an army is moving, we will take the most frequent case, of a five days' march, on which the men carry three days' cooked rations, and the wagons two uncooked.

The way in which the six wagons are employed is usually as follows, viz:

Wagon number one is put at the disposal of the Surgeon, to haul medical stores.

Wagon number two takes the three wall tents allowed by regulation, and the personal luggage of the field and staff officers.

Wagon number three takes the personal luggage of the line officers.

Wagon number four, the kettles and pans of the ten companies.

Wagons numbers five and six, the commissary stores for the march.

Wagon number one is put at the disposal of the Surgeon of the regiment. This is done by special orders. It is supposed to be packed with surgical

instruments, and medical and hospital stores. A Government wagon, drawn by four horses, over good roads, ought to carry 2800 pounds avoirdupois, and make an average distance of two and a half miles an hour. But suppose the weight put down to 2000 pounds, a weight considerably less than is usually drawn by the wagon put at the disposal of the Surgeon, will any member of the faculty kindly explain of what it is made up? Not of sick men, for they are either transported in the ambulances or left behind in the hospital; nor of the knapsacks of invalids, for to carry these on the hospital wagon is expressly forbidden; nor of the stretchers, for these are fastened by the side of the ambulances. The surgical instruments, splints, bandages, etc., the medicine chest and medicine boxes, and the hospital comforts, all that are really needed on a march made, it must be remembered, by men in health, do not exceed in weight 125 pounds; to which, if the hospital tent, weighing less than 185 pounds, be added, the gross weight of surgical, medical and hospital supplies for an infantry regiment of 1000 men, required during a march or on a field of battle, does not reach 320 pounds. The hospital mess chest is excluded as unnecessary. The blankets,

clothing and rations of stewards and nurses, detailed as these men are from the ranks, should be carried by themselves in knapsacks, and the cooking utensils by the hospital cooks. The personal luggage of the Surgeons, as members of the staff, should be carried by Wagon number two, where it can be subjected to the same rules as to weight and measurement as that of the others. These articles, and whatever may be contraband, being removed, and the requisite medical and surgical stores divided equally between the two 2-horse ambulances, also allowed to each regiment of 1000 men, and ample in room and power to carry them; then Wagon number one, which only a recent order, and one that must have been issued under misapprehension of the necessities of the case, assigned to the Medical Department, is dispensed with, and thus one-sixth of the means of transportation used by a regiment is saved.

Wagon number two, in which, besides the personal luggage of the field and staff officers and the tents, the regimental books and papers are carried, cannot well be reduced in the amount of gross weight, say 2200 pounds, which it conveys.

Wagon number three is not more than sufficient to carry the personal luggage of the thirty line

officers of a full regiment, even when reduced to the minimum weight allowed to each officer.

Wagon number four carries the Companies' kettles and pans. The cooks of each company, from three to five in number, carry, or need to carry, no muskets, cartridge boxes or ammunition. Hence why they should ever have been relieved from the duty of transporting such cooking utensils of their respective companies as are necessary in the field, it is hard to see. Every soldier, with his canteen and tin cup, has the means of making coffee whenever there is a halt; which, with the contents of his haversack, renders him independent of the cook. At night, two kettles for procuring water, two for cooking, and four stew-pans, are sufficient for all the needs of so many of the 100 men as do not prefer to cook for themselves (more than one half invariably do this); and these together will weigh less than two muskets, belts and filled cartridge boxes. As a proof that the reduction in the number of cooking utensils carried on a march would be considered no hardship by the men, it may be stated, that on the march of the 11th Corps of the Army of the Potomac, from Centreville to Falmouth and back to Stafford Court-house, the writer frequently noticed not only that the

kettles and pans were not taken at night from the wagon, but that they were often left behind; a thing hardly likely to have happened, had there been pressing need for their use. If, then, without suffering to the soldiers or unusual burden to the cooks, Wagon number four can be dispensed with, another sixth, or one full third, of the means of transportation allowed to a full infantry regiment is saved.

Wagons numbers five and six are used to haul commissary stores and forage; in other words, the two days' rations for the men, and the five days' forage for the cattle. Practically each teamster, for convenience, takes his own forage, leaving only commissary stores and forage for two teams in these two wagons. The full ration is as follows, viz:

Hard bread,	1	pound,
Salt pork,	$\frac{3}{4}$	pound,
Beans,	$\frac{64}{100}$	gills,
Rice,	$1\frac{6}{100}$	ounces,
Coffee,	$1\frac{6}{100}$	ounces,
Sugar,	$2\frac{4}{100}$	ounces,
Vinegar,	$\frac{32}{100}$	gill,
Candles,	$\frac{16}{100}$	ounces,
Soap,	$\frac{64}{100}$	ounces,
Salt,	$\frac{14}{100}$	gill;

together with fresh potatoes, desiccated vegetables and onions when procurable. Twenty-two ounces of soft bread in place of the one pound of hard biscuit, and salt beef or bacon in place of salt pork,

are sometimes substituted. On a march, the men invariably refuse to carry any part of their rations besides pork and bread, coffee and sugar; knowing that these are ample for all their needs. There is no exception to this: beans, rice and potatoes they will not take; the two wagons, on the contrary, take everything. Suppose, then, that the Government, taking the hint from the soldier who ought to be the best judge, should, on a five days' march, transport only the ration of pork and bread, sugar and coffee, and would thus save one half or more of the weight, is there any hardship to the soldier? The truth may as well be told, that upon marches there is a hundredfold more beans, rice and vinegar abandoned than of anything else; and this, though rarely reported, is perfectly well known to every regimental quartermaster. Let it then be understood, and an order issued to the effect, that upon every march the wagons are to carry only pork and bread, sugar and coffee, with a little salt; and another wagon is dispensed with. We have thus three wagons made to answer all the purposes of transportation required in an infantry regiment of 1000 men.

Mention has been made already of the terms of the General Order, reducing the number of wagons

allowed to each regiment of 1000 men to six; and it has been stated that in practice the order was construed so as to give to every regiment, irrespective of its force, the same number. Of this fact (it is not known to the writer that there is a solitary exception), there is no doubt; nor is there any of the corresponding fact, that very few regiments retain anything like that number of men. Had there been, at the time it was issued, a judicious enforcement of the true meaning of that General Order, there can be no doubt that it would have reduced the 54,000 animals stated by General HALLECK to be in use in the Army of the Potomac and among the troops near Washington, by a very large percentage. For wise purposes, the exact numbers in this Army are not allowed to be publicly stated; but if there were now a General Order issued, stating the ratio in which the reduction of wagons allowed to each full regiment should follow its reduced numbers, and it were rigidly enforced in every brigade, a long step would be taken in the right direction.

SECOND. The management of an army train.

The train of a Corps d'Armée consists of the ambulances and wagons for the headquarters of the Corps; of the ambulances and wagons for the

headquarters of each division (two or three of which compose a Corps d'Armée); of the ambulances and wagons for the headquarters of each brigade (four or five of which compose a division); of the ambulances and wagons of each regiment and battery; of the ambulances and wagons of the medical department; of the small arms ammunition wagons; of the wagons to haul forage for the ambulance cattle; of the wagons for the reserve artillery ammunition; of the wagons for the Signal corps, and of the wagons for the supply train: the number may be put at 500, more or less. The order of march may be all together in the rear of the Corps d'Armée, or it may be so divided that each division train follows its own division, or subdivided so that each brigade train follows its own brigade. The ambulances have the advance, and next following are the wagons belonging to the various headquarters, those of the Corps d'Armée preceding those of the divisions, and these those of the brigades. The regimental wagons and supply wagons come last. The wagons are drawn by four horses or by four or six mules, and the ambulances by two horses or two mules: in the former case, the teamster riding the near wheel animal, and guiding the others by voice, whip, and check-

line, assisted by a man on foot to urge forward the leaders in ascending and to lock the wheels in descending hills; in the latter, driving the animals from the box. Accompanying each six teams of a regiment is the regimental quartermaster and his sergeant, both mounted; and accompanying the teams of the brigade is the brigade quartermaster and the wagon-master, both also mounted. Mounted wagon-masters, and perhaps other officers, accompany the ambulances. A pioneer corps attends the train, and a guard, specially detached for the purpose, both accompanies and follows it. In the midst of the train, as one watches it winding over the hills and on the edge of the pine forests, stretching along the road for miles, appear now and then the "spring wagons for contingent purposes"—so the order reads—allowed to generals and their staffs, and the sutlers' leather-covered carts, conspicuous as the only black spots in the long thread of white.

The train starts in the morning at a given hour: on a long day's march it is usually early, sometimes before light. From their various bivouacs, as the regiments wheel into the line of march, the teams emerge and stand under charge of their quartermasters until their place in the line comes.

If an ambulance is too late to fall in, or if a staff wagon is not ready, the whole train is delayed. At * * * , on the march to * * * , in the grey of a frosty morning, with the roads enough stiffened to bear up the wheels, and with teamsters impatient to improve them, the whole train was delayed nearly two hours because a belated staff wagon failed to be ready. It is not unusual, in the course of the day, to see 200 teams and more standing still, because an ambulance, most likely with a drunken driver, has stuck in the mud. The Archbishop of Canterbury could not be more jealous of his primacy, than is the conductor of what pertains to the medical staff of priority on all occasions; so that for a wagon, under any circumstances, to precede an ambulance would be stoutly resisted. This trait, it must be allowed, however, is shared very much in common. Every teamster is tenacious of his place in the line, even though his team is unable to keep up; and so seldom is it that other teams are ordered to pass by him, that gaps, sometimes of half a mile in length, occur in the line. The delays arising from this cause are great. Again, in bivouacking for the night, when the regiments have taken their various positions along the fields and hill-sides, sometimes before

nightfall, it is often near midnight before the teams come up; and in case rations are due, the men have to go supperless to sleep.

Why this last mentioned delay should so uniformly occur, it is not difficult to see. The miles of marching troops, when halted for the night, double up within the length of one or two furlongs; the fields and hills over which fires are instantly lighted can be reached by the wagons only from some lateral point on the road, where there are no ditches to obstruct a passage; the location of the regiment, which each six wagons desire to reach, is unknown until guides are sent back, a thing rarely done; the rearward teamsters, becoming impatient at the delay of those in front, jam forward their wagons within the narrow road; the air resounds with imprecations; the difficulties continually increase, until utter confusion is the result; and this, which by a judicious system might be wholly avoided, is allowed to occur every night of a march.

Another and perhaps the greatest hindrance to the mobility of an army train, is the method of watering the animals. Every wagon and every ambulance is furnished with its bucket, hanging beneath, and yet nineteen teamsters out of every

twenty insist upon allowing their animals to drink in the stream they are crossing. It will be easily seen that when by an imperative rule, absolutely enforced, six teams on each side of the stream, twelve teams in all, might be watered at the same time by the driver and his assistant, much valuable time is lost by the present method. It is hardly too much to estimate its average, day after day, at an hour and a half a day.

Again, in our Volunteer Army, the Pioneer Corps is not what it ought to be on a march. The Revised Regulations for the Army defines the duties of pioneers to be, "to mend roads, remove obstacles and erect defences." For this purpose they should be both in advance of the train, and at short intervals along its line. They should also be practically, during the march, not an independent command, but part and parcel of the train. If a bridge is to be thrown across a stream, or a causeway repaired, or a new road opened—all which imply skill—the Pioneer Corps is at hand, and ready to work with a will; but to mend an impassible gully, or fill up a slough of mud, or remove rocks and fallen trees from a blocked road, work much more frequently required and quite

as necessary to the mobility of a train, they are rarely to be found.

With all these hindrances to encounter, our armies, on a five days' march, make from ten to fifteen miles daily in the winter, and from fourteen to seventeen miles in the summer. But for the delay of the train, there is no doubt that the average daily distance attained would be six miles more. The calculation is equally accurate when applied to forced marches; for though twenty and even twenty-two miles may be made for each of three consecutive days, respect must at last be had to the arrival of the wagons. How many millions of money six miles added to the present daily advance of our armies would save to the Treasury; how many victories it might win on the battle field; how many retreating armies of the enemy it might overtake and capture, or seriously damage, let members of the Cabinet and our Commanding Generals decide!

How, then, should an Army train be managed to overcome these delays? It is replied,

First. Over every Army train of wagons and ambulances, pioneers and guard, quartermasters and sergeants, wagon-masters and teamsters, all considered during the march as one separate body,

distinct from the Army to whieh it belongs, and whieh is preeeding it, governed by its own laws and held to its own responsibility, **LET THERE BE ONE HEAD**, no matter by what name ealled, who shall by himself or deputy be always present, and to whom shall be entrusted for the time being a power as absolute as that possessed by the Major General commanding. If it be onee known in an Army train that sueh a Head, instead of being miles in advanee with the Army, is aetually present, to issue orders, listen to appeals, and make and enforce deeisions on the spot, one great step will be taken in the right direetion.

Secondly. Whateve subordinates the Head of the train may appoint to assist and support him — and they should under no eireumstanees be either brigade or regimental quartermasters, who are interested parties in the teams under their regular eommand — to every twelve vehicles, whether ambulanees or wagons, there should be a mounted Conduetor, reeeiving instruections from and reporting directly to the Head, entrusted with ample power, always present, and held responsible for the men and teams under him.

Thirdly. No teamster should ever be permitted to water his animals in a stream. The twelve

teams, under one conductor, half on one side of the stream and half on the other, should always be watered at once by bringing the water in buckets.

Fourthly. No ambulance or wagon should be allowed to stop the train *en route*: if unable to proceed or keep up, it should instantly make way for those behind.

Fifthly. Immediately on bivouacking for the night, each Commander of a regiment or battery should send back an orderly to conduct the teams belonging to such battery or regiment to its place of encampment.

Sixthly. In starting upon the march in the morning, if any teams, whether belonging to corps, division, brigade or regimental staffs, or to any other portion of the train, are behind time, they should lose their places in the train.

It will be apparent that these suggestions all resolve themselves into the first. Give to every Army train a Head: this done, the details necessary to increase in an eminent degree the speed and effectiveness of our means of Army transportation will follow as a matter of course.